USSR

KHANAGOV, A. A., Kristallografiya, Vol 15, No 4, 1970, pp 732-735

experimental results produced by the author. On the basis of analysis of proton and deuteron resonance data, it is proved that the total orientation of the water molecules in the collagen has the symmetry of a point tetrahedral group, and one axis of the tetrahedron third-order coincides with the fiber axis.

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1/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--CALCULATION OF THE NMR SPECTRUM OF A SOLID IN THE PRESENCE OF MOLECULAR MOBILITY -U-

AUTHOR--KHANAGOV, A.A.

COUNTRY OF INFO--USSR

SOURCE--FIZ. TVERD. TELA 1970, 12(3), 820-4

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NUCLEAR MAGNETIC RESONANCE, MOLECULAR PROPERTY, LINE SPLITTING, ANISOTROPY, MAGNETIC FIELD FLOW, MATRIX ELEMENT, SOLID DYNAMICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1856 STEP NO--UR/0181/70/012/003/0820/0824

CIRC ACCESSION NO--AP0118820

UNCLASSIFIED

2/2 028 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0118820

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A TECHNIQUE WAS CONSIDERED FOR THE CALCN. OF THE DOUBLET SPLITTING IN NMR SPECTRA IN THE PRESENCE OF MOL. MOBILITY. IN THE GENERAL CASE, THE ANGULAR DEPENDENCE OF THE MAGNITUDE OF THE AV. LOCAL FIELD (H) CAN BE REPRESENTED BY A QUADRATIC FORM OF THE VARIABLES WHICH CHARACTERIZE THE DIRECTION OF THE MAGNETIC FIELD RELATIVE TO THE CRYSTAL. SUCH A REPRESENTATION ALLOWED ONE TO ESTABLISH A CORRESPONDENCE BETWEEN POSSIBLE CLASSES OF THE SYMMETRY OF THE MOTIONS AND THE ANISTOROPY OF THE MAGNITUDE (H), AND ALSO TO PROPOSE A SINGLE SCHEME FOR THE CALCN. OF THE AV. LOCAL FIELDS WHICH IS JUST A CALCN. OF THE MATRIX ELEMENTS FROM THE COEFFS. OF THE QUADRATIC FORM.

FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR UDC [546.185+546.47]:54-39:621.892.099.6

SHER, V. V., MARKOVA, E. I., KHANAKOVA, L. G., KUZ'MINA, G. N., SANIN, P. I., Institute of Petrochemicals Synthesis imeni A. V. Topchiev, USSR Academy of Sciences

"Interaction of Zinc Dialkyl Dithiophosphates With Hydroperoxides"

Abstract: Laboratory studies on interaction of Zn dialkyl phosphates with hydroperoxides showed the possibility of two mechanisms: (1) a radical mechanism with formation of bis-(dialkylthiophosphone)-disulfides and basic Zn dialkylphosphates; and (2) an ionic mechanism with formation of dialkyl-monothiophosphoric acid salts and products of extensive salt conversion. Bis-(dialkylthiophosphone) disulfide may react with hydroperoxide to form bis-(dialkyl phosphone) disulfide, which is unstable and forms acid in the presence of water by an ionic mechanism. Basic conversion products of Zn dialkyl thiophosphates with antioxidant properties are formed owing to retardation of the oxidation in the presence of dialkyl dithiophosphates. The effectiveness of Zn dialkyldithiophosphates as antioxidants (hydroperoxide decomposition products) decreases with increase in the ionic part of the reaction, i.e., with increase in polarity of the medium and in the presence of water.
1/1

USSR UDC 612.861.014.2-06:612.273.2

KHANAMIROV, A. R., Professor, and LAZAREVICH, Ye. A., Rostov Clinic of Ear, Throat, and Nose Diseases

"Changes in the Nasal Mucosa in Albino Rats Due to Acute Hypoxia"

Moscow, Vestnik Otorinolaringologii, No 1, Jan/Feb 72, pp 81-83

Abstract: Rats were exposed to acute hypoxia (an altitude of 10,000 m) for 1 hr in a barochamber, with "ascent" and "descent" performed at the rate of 25-30 mm Hg/min. Pathological changes in the nasal mucosa developed within 2 days, and complete recovery took 3 weeks. Edema of all layers, erythema, focal hemorrhages, and infiltration with leukocytes lasted 14 days and disappeared by the 21st day. Markedly increased secretion by mucous glands lasted 2 days and was followed by dystrophic changes for 14 days and recovery by the 21st day. Structural changes occurred in nerve fibers: vascular nerves recovered in 5 days, glandular nerves in 14 days. Acid and neutral polysaccharides and RNA were redistributed in vascular and glandular cells. Activation of protective processes was marked by accumulation of RNA-rich plasma cells and histiocytes in the connective tissue of the mucous membrane. With preliminary administration of hydrocortisone for 2 days prior to the experiment, the posthypoxic vascular reactions were much less pronounced, and recovery was complete in 2 weeks.

USSR UDC 621.384.634

ALEKSANDROV, I. A., FRACHEV, M. I., GUBRIYENKO, K. I., YEMENKO, YE. V., KOTOV, V. I., NEKRASOV, A. N., PRILEPIN, A. A., PISHUGIN, V. A., RSAYEV, R. A., SAMOYLOV, A. V., SELEZNEV, V. S., SEREBRSAKOV, B. A., KHANAMIRYAN, A. YE., and KHODYREV, YU. S.

"Negative Particle Channel With Momentum up to 60 Gigaelectron Volts/Second"

Moscow, Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 29-34

Abstract: This article contains a description of a channel for transporting negative particles generated in an internal accelerator target with momentum up to 60 fifaelectron volts/second and an accelerated proton energy of 70 gigalectron volts. The channel is designed so that for an accelerated proton energy of 70 gigaelectron volts it can be adjusted to momentum in the range of 40-60 gigaelectron volts/second. On reducing the energy of the accelerated protons, the channel can be adjusted to lower momentum. The lower limit corresponds to an accelerated proton energy of 20 gigaelectron volts and is equal to 11.4 gigaelectron volts/second.

The optical system of the channel and its characteristics

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ALEKSANDROV, I. A., et al., Atomnaya Energoya, Vol 29, No 1, Jul 70, pp 29-34

are presented. The limiting solid capture angle of the secondary particles by the channel is 32 microsteradians. The best resolution with respect to momentum is 0.3 percent without decreasing the pacture angle. The channel was investigated primarily using a secondary beam with a momentum of p = 50 giga-electron volts/second. The procedure for adjusting the channel and the calculated data are described. The differences between the calculated operating conditions of the elements and the conditions after adjustment together do not exceed the errors of the fringing field of the accelerator, the magnetization curve, and the curve for calibrating the bypasses of the magnet. On the whole, the beam parameters agree well with the calculated data.

A detailed diagram of the channel layout is presented, and graphs are presented for the radial position of the targets and the production angle as functions of the momentum of the secondary particles, the optical system of the channel and path of the beams in the horizontal and vertical planes, the momentum

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ALEKSANDROV, I. A., et al., Atomnaya Energiya, Vol 29, No 1, Jul 70, pp 29-34

resolution of the channel, the beam profile with momentum of 50 gigaelectron volts/second in the parallel section and slit width of the aperture collimators of ±20 mm and the pulse collimator ±6mm, the beam profile with momentum of 50 gigaelectron volts/second in the final representation on including the lens doublet, and the beam profile with momentum of 50 gigaelectron volts/second in the final representation on including a lens triplet.

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1/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--REACTION OF DIMETHYLDICHLOROSILANE WITH HYDROQUINONE -U-

AUTHOR-(04)-ANDRIANOV, K.A., VARLAMOV, A.V., KHANANASHVILI, L.M., RUBINA, N.S.

COUNTRY OF INFO--USSR

SOURCE--ZH. OBSHCH. KHIM. 1970, 40(3), 611-13

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLYNUCLEAR HYDROCARBON, BENZENE DERIVATIVE, ORGANIC SILANE, CHLORINATED ORGANIC COMPOUND, HYDROQUINONE, HETEROCYCLIC BASE COMPOUND, OLIGOMER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/0899 STEP NO--UR/0079/70/040/003/0611/0613

CIRC ACCESSION NO--AP0124560

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201310004-8"

2/2 010 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124560

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. HEATING 44 G HYDROQUINONE WITH 80.96 G ET SUB3 N AND 52.2 G ME SUB2 SICL SUB2 IN CH SUB6 H SUB6 UNDER INERT ATM. GAVE IN 2.5 HR 68.4PERCENT PRODUCT, B. 220-86DEGREES, AFTER FINAL HEATING WITH 0.6 G ZNO IN VACUO AT 350-450DEGREES TO DEPOLYMERIZE THE INITIAL OLIGOMER. THE DISTD. MATERIAL YIELDED, ON CRYSTN. FROM C SUB6 H SUB6, 49.7PERCENT I, M. 108-11DEGREES, AND 12.7PERCENT II, M. 180-2DEGREES. THE ORIGINAL OLIGOMER IS A MIXT. OF HIOC SUB6 H SUB4 OSIME SUB2-P) SUBX CL UNITS. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNOL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 612.825

BOGOSLOVSKIY, M. M., KhANANASHVILI, M. M., ZARKESHEV, E. G., Physiological Department imeni I. P. Pavlov, Scientific Research Institute of Experimental Medicine of the USSR Academy of Medical Sciences

"Neurophysiological Characteristic of the Isolated Structures of the Cerebral Cortex"

Moscow, Uspekhi Fiziologicheskikh Nauk, Vol 4, No 2, 1973, pp 55-100

Abstract: A survey was made of the literature on the neurophysiological characteristic of preparations of an isolated strip of the cortex and the isolated cortex. Data are presented on the background and the forced electrical activity of the preparations under conditions of macro and microleads and also biochemical and pharmaceutical studies of them. The procedure for preparing the isolated strip of cortex, the morphological characteristic of the cortex section subjected to isolation, the background electrical activity of the isolated cortical strip in acute and chronic experiments, the metabolic processes in the isolated cortical section, the electrical activity in the section in response to electrical and chemical stimulation of it and other effects, the intracortical interaction in the section, the procedure for isolating the entire cerebral cortex, its morphological nature, background electrical activity, electrical activity in response to electrical stimulation, convulsive electrical activity

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201310004-8"

USSR

BOGOSLOVSKIY, M. M., et al., Uspekhi Fiziologicheskikh Nauk, Vol 4, No 2, 1973, pp 55-100

in the isolated cortex, the pharmacological effect on the electrical activity time relations in the isolated cortex and variations of isolating the cortex of one lobe are discussed. Sample recordings of the cortical activity under the various conditions and histograms of the first conditioning and pseudoconditioning cycles are given. In spite of the clearly pathological picture of the background electrical activity of the preparations, they permitted the study of some important properties of the cerebral cortex. Proof was obtained not only of the presence of characteristic cortical macro and cellular activity and the capacity of the cortical tissue to respond to direct stimulation, but also the peculiarities of retaining an even better exhibited regionality and electrical activity of the preparation of the completely isolated cortex of one lobe. The study of the pharmacological effects on the isolated cortex established the fact that the cortical cells relieved of two-way communications with the subcortex can form traces of stimuli applied to them. The time relation model permits the study of characteristically cortical features of the switching activity of the brain.

2/2

1/3 015 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DYNAMICS OF PRIME90 SR AND PRIME137 CE ENRICHED WATER MASSES IN THE TROPICAL ZONE OF THE ATLANTIC OCEAN -U-
AUTHOR--KHANAYCHENKO, N.K.

COUNTRY OF INFO--USSR, ATLANTIC OCEAN

SOURCE--(AEC-TR-7128, PP 66-78) TRANSLATED FROM REPORT A-AC-82-G-L-1254

DATE PUBLISHED--------70

SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, EARTH SCIENCES AND OCEANOGRAPHY
TOPIC TAGS--OCEAN RADIOACTIVITY, CESIUM ISOTOPE, STRONTIUM ISOTOPE, NUCLEAR WEAPON TEST, OCEAN CURRENT, OCEAN CIRCULATION, TROPICS, PARTICLE DISTRIBUTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1747 STEP NO--UR/0000/70/000/000/0066/0078

CIRC ACCESSION NO--AT0054588
UNCLASSIFIED

2/3 015 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC-ACCESSION NO--AT0054588

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PUBLISHED DATA ON THE DISTRIBTUION IN OCEAN WATER OF PRIME137 CS AND PRIME90 SR, PRODUCED BY ATMOSPHERIC AND UNDERWATER NUCLEAR TESTS, WERE ANALYZED AND USED TO STUDY OCEANIC CIRCULATION. THE OCEAN AREA INCLUDED WAS LIMITED TO THE TROPICAL ZONE OF THE ATLANTIC OCEAN. IT WAS CONCLUDED THAT: INTENSIVE PENETRATION OF LONG LIVED RADIONUCLIDES FROM THE SURFACE TO THE OCEAN DEPTH AS A RESULT OF TURBULENT EXCHANGE CAN OCCUR IN LOW LATITUDES TO A DEPTH OF 300 TO 400 M ONLY, ALTHOUGH IN INDIVIDUAL AREAS, THERE CAN BE PENETRATION TO 800 M; HIGH CONCENTRATIONS AT GREAT DEPTHS OF SURFACE DEPOSITED RADIOISOTOPES OCCURS CHIEFLY IN WATER OF ADVECTIVE ORIGIN; AND THE DEEP PENETRATION OF RADIOISOTOPES OCCURS FAR MORE RAPIDLY BY ADVECTION THAN BY VERTICAL EXCHANGE THROUGH TURBULENT DIFFUSION. FINALLY, IT SHOULD BE BORNE IN MIND THAT PRIME90 SR (AND TO A CERTAIN EXTENT PRIME137 CS), WHICH IS FOUND IN SOLUTION IN THE OCEAN, IS AN INTEGRAL CHARACTERISTIC PROPERTY OF THE WATER, EVEN THROUGH INTRODUCED FROM OUTSIDE. HENCE, ASSUMING THAT IT IS POSSIBLE FOR HIGH CONCENTRATIONS OF RADIONUCLIDES TO PENETRATE DIRECTLY FROM THE SURFACE TO GREAT DEPTHS BY DIRECT TURBULENT EXCHANGE, THEN, FIRSTLY A CONCENTRATION SHOULD OBVIOUSLY BE OBSERVED ON THE SURFACE OF THE OCEAN WHICH IS NOT SMALLER THAN THAT IN DEEP WATER, AND SECONDLY, IN THAT EVENT THE POSSIBILITY OF DIRECT TURBULENT EXCHANGE OF OTHER CHARACTERISTICS SHOULD BE ACCEPTED. IN FACT, HOWEVER, WE OBSERVE A FAIRLY STABLE DISTRIBUTION OF VARIOUS CHARACTERISTICS IN THE DEPTHS OF THE OCEAN, CORRESPONDING TO DIFFERENT TYPES OF WATER OF ADVECTIVE ORIGIN.

UNCLASSIFIED

3/3 015 UNCLASSIFIED PROCESSING DATE--16OCT70
CIRC ACCESSION NO--AT0054588
ABSTRACT/EXTRACT--FACILITY: GOSUDARSTVENNYI KOMITET PO ISPOL'ZOVANIYU ATOMNOI ENERGII SSSR, MOSCOW.

UNCLASSIFIED

1/2 023 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--DISTRIBUTION OF LONG LIVED RADIONUCLIDES AND WATER CIRCULATION IN THE TROPICAL ZONE OF THE ATLANTIC OCEAN -U-

AUTHOR--KHANAYCHENKO, N.K.

COUNTRY OF INFO--USSR, ATLANTIC OCEAN

SOURCE--OKEANOLOGIYA, 1970, VOL 10, NR 2, PP 264-225

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, NUCLEAR SCIENCE AND TECHNOLOGY, MILITARY SCIENCES

TOPIC TAGS--RADIOACTIVE FALLOUT, ATMOSPHERE, OCEAN, NUCLEAR WEAPON TEST, STRONTIUM ISOTOPE, OCEAN CIRCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1990/1390 STEP NO--UR/0213/70/010/002/0264/0275

CIRC ACCESSION NO--AP0109457

UNCLASSIFIED

2/2 023 UNCLASSIFIED PROCESSING DATE--020CT70
CIRC ACCESSION NO--AP0109457
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LARGE AMOUNTS OF RADIOACTIVE PRODUCTS, INCLUDING LONG LIVED RADIONUCLIDES, HAVE BEEN INTRODUCED FROM THE ATMOSPHERE INTO THE OCEAN AS A RESULT OF NUCLEAR WEAPONS TESTS. CONSIDERATION IS BEING GIVEN TO: (1) THE POSSIBILITY OF APPLYING THE DISTRIBUTION OF LONG LIVED RADIONUCLIDES (AS THE MOST STABLE CHARACTERISTICS) IN THE OCEAN TO THE ANALYSIS OF WATER DYNAMICS, AND (2) THE CAUSES RESPONSIBLE FOR THE NONUNIFORM DISTRIBUTION OF RADIONUCLIDES BOTH AT THE OCEAN SURFACE AND IN DEPTHS. THE RATES OF SR PRIME90 CONCENTRATIONS IN THE TROPICAL ZONE OF THE ATLANTIC OCEAN IN 1963, 1964 ARE DETERMINED. BASED UPON THESE RATES AND THE PRESENT DAY KNOWLEDGE OF THE NATURE OF WATER CIRCULATION, AN EXPLANATION IS GIVEN OF THE NONUNIFORM DISTRIBUTION OF SR PRIME90 CONCENTRATION AT THE OCEAN SURFACE. ALMOST UNCONTAMINATED DEEP WATERS ARE FOUND TO ASCEND IN THE REGIONS OFF THE NORTHWESTERN COAST OF AFRICA AND ALONG THE BRAZIL CURRENT PERIPHERY. THE OCCURRENCE OF HIGH SR PRIME90 CONCENTRATIONS IN THE DEEP OCEAN LAYERS IS SHOWN TO BE CAUSED MAINLY BY THE ADVECTIVE TRANSPORT FROM THE OCEAN SURFACE INTO DEPTHS. FACILITY: INSTITUT BIOLOGII YUZHNYKH MOREY IM. A. O. KOVALEVSKOGO AN USSR.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--DETERMINATION OF THE ENTHALPY OF WATER ELECTROCHEMICAL DESINTERGRATION -U-
AUTHOR-(02)-KHANAYEV, YE.I., RABININA, YE.P.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA KHIMICHESKIKH NAUK, 1970, NR 2, PP 157-159
DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ENTHALPY, ELECTROCHEMISTRY, WATER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0569 STEP NO--UR/0289/70/000/000/0157/0159

CIRC ACCESSION NO--AP0113460
UNCLASSIFIED

2/2 013 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0113460
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ENTHALPY OF WATER ELECTROCHEMICAL DESINTEGRATION WAS MEASURED BY MEANS OF METALLIC CALORIMETER, ELECTROLIZER WITHOUT DIAPHRAGM. FACILITY: INSTITUT NEORGANICHESKOY KHIMII SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

1/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--STANDARD ENTHALPY OF FORMATION OF URANIUM TRIFLUORIDE -U-

AUTHOR-(02)-KHANAYEV, YE.I., KHRIPIN, L.A.

COUNTRY OF INFO--USSR

SOURCE--RADIOKHIMIYA 1970, 12,1, 178-81

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ENTHALPY, URANIUM COMPOUND, FLUORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1996/0883 STEP NO--UR/0186/70/012/001/0178/0181

CIRC ACCESSION NO--AP0118052

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--30OCT70
CIRC ACCESSION NO--AP0118052
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TWO VALUES FOR THE STD. ENTHALPY OF FORMATION OF UF SUB3 (MINUS 358 PLUS OR MINUS 4 AND MINUS 355 PLUS OR MINUS 6 KCAL,MOLE) WERE OBTAINED BY 2 INDEPENDENT SERIES OF MEASUREMENTS OF THE SOLY. OF UF SUB3 AND OTHER U COMPDS. IN THE HCL CONTG. BORIC ACID AND FECL SUB3 AT 50DEGREES.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--ON THE CEREBELLUM NEURONES RESPONSE TO VISUAL STIMULATION -U-

AUTHOR--KHANBABYAN, M.V.

COUNTRY OF INFO--USSR

SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56, NR 3, PP 339-344

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--NEURON, CEREBELLUM, CAT, VISION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1982/1602 STEP NO--UR/0239/70/056/003/0339/0344

CIRC ACCESSION NO--AP0052797

UNCLASSIFIED

UNCLASSIFIED PROCESSING DATE--16OCT70

2/2 029

CIRC ACCESSION NO--AP0052797

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CEREBELLAR NEURONAL REACTIONS TO LIGHT FLASHES AND OPTIC TRACT ELECTRIC STIMULATION WERE STUDIED IN THE CATS ANESTHETIZED WITH CHLORALOSE. TWO TYPES OF NEURONES WERE DISTINGUISHED: SILENT AND SPONTANEOUSLY ACTIVE. SILENT NEURONES FIRED WITH SHORT BURSTS OF SPIKES AND WITH CONSTANT LATENCY IN RESPONSE TO THE STIMULI. THE VISUAL STIMUATION PRODUCED INHIBITION OF THE SPONTANEOUSLY ACTIVE CELLS DURING SOME HUNDRED MSEC. ALSO, THE PURKINJE CELLS WERE IDENTIFIED BY ANTIDROMIC ACTIVATION AND LAYER OF NEURONAL RECORDINGS IN THE CEREBELLAR CORTEX. FACILITY: L. A. ORBELI'S INSTITUTE OF PHYSIOLOGY, ACAD. SCI. ARMENIAN SSR, EREVAN.

UNCLASSIFIED

1/3 028 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--DETERMINING METEOR RADIANT AND ALTITUDE IN CONTINUOUS RADAR OBSERVATIONS -U-

AUTHOR-(04)-GULMEDOV, KH.D., LAGUTIN, M.F., SMAGIN, D.M., KHANBERDYYEV, A.KH.

COUNTRY OF INFO--USSR

SOURCE--ASHKHABAD, IZVESTIYA AKADEMII NAUK TURKMENSKOY SSR, SERIYA FIZIKO-TEKHNICHESKIKH, KHIMICHESKIKH I GEOLOGICHESKIKH NAUK, NO 2, 1970,

DATE PUBLISHED--------70

SUBJECT AREAS--ASTRONOMY, ASTROPHYSICS, NAVIGATION

TOPIC TAGS--METEOR RADIANT, RADAR METEOR OBSERVATION, REFLECTED SIGNAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0104 STEP NO--UR/0202/70/000/002/0076/0083

CIRC ACCESSION NO--AP0125926

UNCLASSIFIED

2/3 028 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125926

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS OF THIS ARTICLE PROPOSE A METHOD FOR DETERMINING THE RADIANT, DECELERATION AND ALTITUDE OF A METEOR DURING RADAR OBSERVATIONS IN A CONTINUOUS REGIME; IT REQUIRES USE OF NO ADDITIONAL ANGLE MEASURING DEVICES. THE INITIAL DATA WERE THE RESULTS OF ANALYSIS OF THE AMPLITUDE AND TIME CHARACTERISTICS OF REFLECTED SIGNALS. THE METHOD WAS DEVELOPED BY THE ASTROPHYSICAL LABORATORY IN THE PROGRAM OF JOINT RESEARCH BY THE KHAR'KOV INSTITUTE OF RADIOELECTRONICS AND THE INSTITUTE OF PHYSICS OF THE EARTH AND ATMOSPHERE ACADEMY OF SCIENCES TURKMEN SSR. USE OF THE CONTINUOUS OBSERVATION METHOD MAKES IT POSSIBLE TO COMPUTE METEOR VELOCITY WITH A HIGHER ACCURACY BECAUSE THE REFLECTED SIGNAL HAS DIFFRACTION OSCILLATIONS TO THE REFLECTION POINTS WHICH ARE LEAST SUBJECT TO WIND INFLUENCE. HOWEVER, USE OF CONITNUOUS RADIATION COMPLICATES DETERMINATION OF THE DIRECTION COSINES OF THE TRAIL. IN THE CASE OF A PULSED SYSTEM THE RATIO OF THE DISTANCE BETWEEN REFLECTION POINTS ON THE TRAIL TO THE DISTANCE SEPARATING TWO CORRESPONDING RECEIVERS AT THE EARTH'S SURFACE IS EQUAL TO HALF THE COSINE OF THE ANGLE BETWEEN THE DIRECTION OF THE TRAIL AND THE LINE CONNECTING THESE RECEIVERS. THIS OCCURS WHEN THE RECEIVERS ARE 5-3 KM FROM THE TRANSMITTER. WHEN USING THE CONTINUOUS RADAR METHOD THE DIRECT WAVE IS ATTENUATED BY PLACING THE RECEIVERS AT GREAT DISTANCES FROM THE TRANSMITTER. TENS OF KILOMETERS MAY SEPARATE THE EXTREME POINTS. FOR SUCH BASES THE DIRECTION COSINES OF THE TRAIL ARE DEPENDENT NOT ONLY ON THE SPACING OF REFLECTION POINTS ALONG THE TRAIL, BUT ALSO ON THE SPATIAL POSITION OF THE TRAIL.

UNCLASSIFIED

3/3 028 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125926

ABSTRACT/EXTRACT--IN COMPUTING THE ORBIT IT IS NECESSARY TO KNOW NOT ONLY THE VELOCITY VECTOR OF THE METEOR, BUT ITS DECELERATION AS WELL; THIS REQUIRES A MULTISTATION MEASURING SYSTEM FOR MEASURING APPARENT VELOCITIES AT SEVERAL POINTS ALONG THE TRAIL. THE ARTICLE DESCRIBES A COMPLEX FOR FIVE SPACED TRANSMITTERS AND A RECEIVING REGISTERING APPARATUS. FORMULAS ARE DERIVED AND AN EXAMPLE USED IN ILLUSTRATING THE METHOD FOR DETERMINING THE COORDINATES OF THE RADIANT FROM THE DIRECTION COSINES OF THE TRAIL. THE ARTICLE THEN DESCRIBES A SIMPLE PHASE METHOD FOR MEASURING THE ANGULAR COORDINATES OF A METEOR TRAIL BASED ON A DIRECT COMPARISON OF THE AMPLITUDE TIME CHARACTERISTICS OF THE REFLECTED SIGNALS. FACILITY: INSTITUTE OF PHYSICS OF THE EARTH AND ATMOSPHERE, ACADEMY OF SCIENCES TURKMEN SSR.

UNCLASSIFIED

USSR

TODOROY, D. N., LYSYY, S. T., KAPATSYNA, G. G., KHANBEKOVA, N. S.

"Input Language for Graphic Information Processing System"

Prikl. Mat. i Programmir. [Applied Mathematics and Programming -- Collection of Works], No 8, Kishinev, Shtiintsa Press, 1972, pp 122-138 (Translated from Referativnyy Zhurnal Kibernetika, No 4, 1973, Abstract No 4V675).

Translation: The GRAFIK input language for computer and plotter software systems is described. The language includes geometric operators (cycle, turn, shift, symmetry, transform, calling of subroutine) and fragments (point, line, enscription, function, pen, linear and angular dimensions). The language also includes ALGOL-60 operators: attachment and transfer. An example of a program written in GRAFIK is presented.

1/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CARBON CHAIN COPOLYMERS CONTAINING PHOSPHORUS, NITROGEN, AND OXYGEN HETEROATOMS -U-

AUTHOR-(03)-KUCHKAROV, A.B., ALOVITDINOV, A.B., KHAMDAMOVA, D.K.

COUNTRY OF INFO--USSR

SOURCE--UZB. KHIM. ZH. 1970, 14(2), 78-80

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COPOLYMER, PHOSPHONIC ACID, BENZENE DERIVATIVE, VINYL COMPOUND, PYRROLIDINE, KETONE, TAUTOMERISM, LACTAM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0919 STEP NO--UR/0291/70/014/002/0078/0080

CIRC ACCESSION NO--AP0137947

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137947

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. (1,PHENYL,VINLY)PHOSPHONIC ACID WAS COPOLYMD. WITH 1,VINYL,2,PYRROLIDINONE IN SEALED GLASS AMPULS IN THE PRESENCE OF 1 WT. PERCENT AZOBISISOBUTYRONITRILE AT 80DEGREES IN N. COPOLYMERS WERE PPTD. WITH ET SUB2 O FROM CHCL SUB3 OF ME SUB2 CO SOLNS. AND THEIR CHEM. COMPN. DETD. COPOLYMERS WERE AMORPHOUS, SOL. IN H SUB2 O, LIGHT YELLOW TO RED BROWN, AND OF AMPHOTERIC CHARACTER. THE VISCOSITY CURVE OF DIL. AQ. SOLNS. OF COPOLYMERS IN H SUB2 O VS. PH INDICATED THE KETO,ENOL TAUTOMERISM OF THE LACTAM RINGS.

FACILITY: INST. KHIM., TASHKENT, USSR.

UNCLASSIFIED

1/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70

TITLE--EFFECT OF COURDINATION WITH THE METAL ON THE REACTIVITY OF PI BONDED ORGANIC LIGANDS. II. REVERSIBLE POLAROGRAPHIC REDUCTION OF

AUTHOR-(02)-KHANDKAROVA, V.S., GUBIN, S.P.

K

COUNTRY OF INFO--USSR

SOURCE--J. ORGANOMETAL. CHEM. 1970, 22(1), 149-52

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--POLAROGRAPHY, ACETOPHENONE, CHEMICAL REDUCTION, CHROMIUM COMPOUND, COMPLEX COMPOUND, DROPPING MERCURY ELECTRODE, MOLECULAR ORBITAL, ELECTRON DENSITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1978 STEP NO--NE/0000/70/022/001/0149/0152

CIRC ACCESSION NO--AP0112942

UNCLASSIFIED

2/2 020 UNCLASSIFIED PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0112942

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE REVERSIBLE POLAROGRAPHIC REDN. OF ACETOPHENONE (I), FREE AND COORDINATED WITH THE CR(CO) SUB3 GROUP IN APROTIC MEDIA WAS INVESTIGATED. THE ANALOGY BETWEEN THE POLAROGRAPHIC DATA FOR COORDINATED AND NONCOORDINATED I LEADS TO THE CONCLUSION THAT THE ELECTRONIC D. CHANGES IN THE I PART OF THE COMPLEX DURING THE REDN. ON THE DROPPING HG ELECTRODE. COORDINATION WITH CR(CO) SUB3 IS LIKELY TO DECREASE THE ENERGY OF THE LOWEST UNOCCUPIED MO OF I BY LARGER THAN 0.5 EV. FACILITY: INST. ORGANO-ELEM. COMP., MOSCOW, USSR.

UNCLASSIFIED

1/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--EFFECT OF COORDINATION WITH THE METAL ON THE REACTIVITY OF PI BONDED ORGANIC LIGANDS. III. CHANGES OF THE ELECTRONIC EFFECT OF THE

AUTHOR-(02)-GUBIN, S.P., KHANOKAROVA, V.S.

COUNTRY OF INFO--USSR

SOURCE--J. ORGANOMETAL. CHEM. 1970 22(2) 449-60

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--FERROCENE, CHROMIUM COMPOUND, CARBONYL RADICAL, METHANE, ELECTROLYTIC OXIDATION, PLATINUM ELECTRODE, POTENTIOMETRIC TITRATION, COORDINATION CHEMISTRY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/1559 STEP NO--NE/0000/70/022/002/0449/0460

CIRC ACCESSION NO--AP0112553

UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--02OCT70

CIRC ACCESSION NO--AP0112553

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT.

FERROCENYLPHENYLCHROMIUMTRICARBONYLMETHANE (I) AND FERROCENYLPHENYLCHROMIUM TRICARBONYL (II) WERE PREPD. THE POLAROGRAPHIC OXION. OF I AND II ON A PT ELECTRODE IN MECN WAS INVESTIGATED AND THE E SUBFO OF I WAS DETD. BY A POTENTIOMETRIC TITRN. A SET OF SIGMA CONSTS. WAS CALCD. FOR THE (CO) SUB3 CRPH GROUP AS SUBSTITUENT. ANAL. OF THE RESULTS OBTAINED LED TO THE CONCLUSION THAT A CONSIDERABLE CHANGE OF EFFECTIVE POS. CHARGE ON THE SIGMA ORBITALS OF THE AROMATIC RIGN CARBONS TOOK PLACE UPON COORDINATION WITH THE (CO) SUB3 CR GROUP.

UNCLASSIFIED

USSR UDC (621.317.77+621.317.619)(088.8)

AGROSKIN, V. I., BELOV, N. Ya., KHANDOGIN, B. N., KHOVANSKIY, Yu. P.

"A Device for Determining the Time Position of Radio Pulses and Measurement of the Phase of the Carrier Frequency"

USSR Author's Certificate No 265987, filed 10 Nov 67, Published 1 Jul 70 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7A234 P)

Translation: This Author's Certificate introduces a device for determining the time position of radio pulses and measuring the phase of the carrier frequency. The device contains a single-channel superhet receiver with a phase meter and phase detector at the output. Also incorporated in the device is a tracking system for measuring the time position. To ensure the possibility of operation under conditions of jitter, and to improve the reliability of the device, the heterodyne input of the radio receiver is connected to a source of antiphase heterodyne voltages through an operating mode selector and three electronic switches, the controlling inputs of two of the switches being connected to the outputs of the tracking system through a gating pulse commutator, while the controlling input of the third switch is connected to these outputs directly. The receiver output is connected to the phase meter and phase detector through an operating mode selector like that connected in the heterodyne circuit. Resumé.

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UDC 621.378.33

USSR

ANDRONOVA, I.A., KHANDOKHIN, P.A. [Scientific-Research Radiophysics Institute]

"Investigation Of The Effect Of A Magnetic Field On The Characteristics Of A Ring Laser At A 3.39 Micron Wave Length"

Izv.VUZ: Radiofizika, Vol XV, No 5, May 72, pp 703-712

Abstract: The paper is concerned with a theoretical consideration of the effect on certain characteristics of lasers of various configurations (linear, triangular, quadrangular) of a longitudinal magnetic field which is superimposed on an active medium. The calculations were primarily made in order to determine the polarization effects in lasers with an arbitrary anisotropy of losses (in particular with the presence of a Brewster window) and also the effect of frequency drift and frequency splitting in triangular lasers. In addition a corresponding experimental study was made with a He^3-Ne^{20} laser with a triangular resonator at a 3.39 micron wavelength. The theoretical and experimental results are in good agreement. During supply of the magnetic field, elimination of the competition region was observed. The authors thank I.L. Bershteyn for useful discussion of the work. 4 fig. 15 ref. Received by editors, 10 September 1971.

1/1

UDC 539.389.2:669.15

USSR

BEREZINA, N. V., DONUKIS, T. L., KUDINOV, V. M., TITOV, P. V., and KHANDROS, L. G., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Structural Changes in Steel Kh18N9T During Explosive Welding"

Kiev, Metallofizika, No 40, 1972, pp 49-53

Abstract: An investigation was made of the weld seam of a steel Kh18N9T-copper bimetal, produced by explosive welding with contact rates of 2.7 and 3.9 km/sec. Strengthening of the steel to a depth of 0.5 mm was detected in the seam zone, and the rolling texture disappears in this same layer. At the rate of 3.9 km/sec, 30% alpha-martensite formed in the steel in the seam zone. As x-ray diffraction analysis showed, the width of the interference lines of the alpha-martensite were small and considerably less than for the martensite obtained during cold working. This suggests that the martensite is found in a weakened condition apparently as the result of heat liberation. 3 figures, 1 table, 5 bibliographic references.

1/1

UDC 669.017.3

USSR

KUPOREV, A. L. and KHANDROS, L. G., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Twinning Structure of Martensite Crystals in Cu-Al-Mn Alloys"

Kiev, Metallofizika, No 39, 1972, pp 122-127

Abstract: The structure of gamma-prime martensite crystals was investigated in a Cu-Al-Mn alloy (14% Al, 1.5% Mn). It was shown that the gamma-prime crystals consist of two halves in a twinned position. These were separated by a middle plane having an orientation of $(10\bar{1}1)$ or (0001). Each of the halves of the gamma-prime crystal consists of an assembly of plates also found in a twinned position. The twinning plane of these plates has a $(10\bar{1}1)$ orientation. A different phase volume can be observed in each of the twinned arrangements. 5 figures, 5 bibliographic references.

1/1

USSR UDC: 669.3.536.425

LOBODYUK, V. A., TKACHUK, V. K. and KHANDROS, L. G., Institute of Physics of Metals

"Martensite Transformation in Thin Films of Copper-Aluminum-Nickel Alloy"

Sverdlovsk, Fizika metallov i metallovedeniye, Vol 33, No 1, Jan 72, pp 137-143

Abstract: The growth and substructure formation of the γ' phase elastic crystals in thin films of a copper alloy with 14.1% Al and 5% Ni have been studied. The γ'-phase crystals in thin films are most commonly platetet-shaped, which is, apparently, advantageous for their growth and interaction with the surrounding matrix. There is no crystal growth in sections with a high dislocation density. To generate martensite crystal growth under the influence of stresses, the dislocations must be arranged in specific slip planes rather than chaotically. Ahead of the growing martensite phase crystals one observes a dislocation movement "leading" the transformation front which is most likely related to stresses with maximum values at the peak of the martensite crystsl. Unlike similar phenomena

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201310004-8"

USSR

LOBODYUK, V. A., et al, Fizika metallov i metallovedeniye, Vol 33, No 1, Jan 72, pp 137-143

observed in twinning, there were no defects (dislocations or twins) in the initial β_1 phase near the growing crystals (along the interphase boundaries). This may be attributed to the fact the crystal growth occurs in a thin film. 5 illustrations, 10 bibliographic references

2/2

USSR UDC: 536.516.2(088.8)

ARBUZOVA, I. A., TITOV, P. V., KHANDROS, L. G.

"Temperature-Sensitive Element"

USSR Authors' Certificate No 330359, Filed 3/07/70, Published 18/04/72 (Translated from Referativnyy Zhurnal Metrologiya i Izmeritel'naya Tekhnika, No 4, 1973, Abstract No 4.32.800P, by V. S. K.).

Translation: A temperature-sensitive element (TE) made of a bimetal is suggested. The sensitivity of the TE is limited by the difference in coefficients of thermal expansion of the metals or alloys and, in the low temperature area, is reduced due to the decrease in coefficients of thermal expansion of metals at low temperatures. In order to increase the sensitivity, accuracy and range of application, it is suggested that elements be made of materials which undergo martensite conversion in both directions as the temperature changes, for example of a Cu-Al-Ni alloy with 12-16% Al and 0-10% Ni. By varying the chemical composition of the Cu-Al-Ni alloy, the hysteresis of the martensite conversion can be changed, as can the martensite point. The working are of the TE can thus be varied from -200 to +200° C. To assure deformation of the TE as it is cooled, it is equipped with a directed load unit, allowing the TE to be used in repeated heating and cooling cycles. 1 figure.
1/1

- END -

Analysis and Testing

USSR

UDC 669.3:535.533.35

LOBODYUK, V. A., TKACHUK, V. K., and KHANDROS, L. G., Institute of Metal Physics, Academy of Sciences Ukrainian SSR

"Gamma'-Phase Crystal Morphology in a Cu-Al-Ni Alloy"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 33, No 2, Feb 72, pp 339-345

Abstract: A copper-base alloy containing 14.1% Al and 5% Ni with and M_g point close to room temperature was investigated with the aid of an electron microscope. It was found that the martensite crystals consist of two parts found in a twinned interrelationship where the twinning plane was (121) for the gamma'-phase. The crystal structure (thin twins, stacking faults) form simultaneously with the crystal formation. Between the $beta_1$- gamma'phase the following orientation relationship can be observed: $(101)_{\beta_1} // (001)_{\gamma'}$; $[010]_{\beta_1} // [010]_{\gamma'}$. Seven figures, 9 bibliographic references.

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USSR

UDC 539.389.2:669.15

DONUKIS, T. L., LOBODYUK, V. A., SAVVAKIN, G. I., TITOV, P. V., FEDAS, N. P., and KHANDROS, L. G., Institute of Metal Physics, Academy of Sciences Ukr SSR

"The Effect of Shock Loading on the Structure and Properties of Fe - Ni Alloys"

Kiev, Metallofizika, No 32, 1970, pp 88-94

Translation: The structure and properties of Fe - 30% Ni and Fe - 32% Ni alloys after the passage of shock waves of 100 and 300 kbar were studied. The loading was made by a shock of a steel plate. The time of the effect of high pressure was 1.4 microseconds. A shock wave of 300 kbar induces an almost full $\alpha \rightarrow \gamma$ transformation. A needle structure unusual for austenite, twins, and a cellular dislocation structure were observed in the γ-phase formed.

After the $\alpha \rightarrow \gamma$ transformation induced by the passage of a shock wave, hardness reached 270 Hv, and the γ-phase hardened by shock loading had a hardness of 220 Hv. The recovery of the

USSR

DONUKIS, T. L., et al., Metallofizika, No 32, 1970, pp 88-94

γ-phase formed as a result of the $\alpha \rightarrow \gamma$ transformation under the effect of shock loading began at 200°C below the recovery temperature of 70% deformed austenite.

2/2

USSR

UDC 539.67

ARBUZOVA, I. A., BAVILYUK, V. S., and KHANDROS, L. G., Institute of Metal Physics, Academy of Sciences UkrSSR

"Study of the Change in Internal Friction in Cu - Al - Ni Alloys Over the Temperature Range of the Formation of Elastic Martensite Crystals"

Kiev, Metallofizika, No 32, 1970, pp 100-104

Translation: The existence of phase equilibrium in martensite transformation in the Cu - Al - Ni alloy gives reason to believe that an increased value of internal friction should be observed in a two-phase region. Internal friction in the Cu - Al - Ni alloy with a martensite point of about 60° over the temperature range 120 to 160° C was studied by the torsional vibration method (γ = 1 cps). It was shown that stable peaks of internal friction are observed over the temperature range of direct and inverse martensite transformation.

The maximum value of internal friction on the curves obtained corresponds to approximately 50% of the transformed phase. An increase in the deformation amplitude leads to an increase in internal friction over the temperature range of the $\beta_1 \rightarrow \gamma'$ transformation. Bibliography: 6 entries, 5 illustrations.

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USSR UDC 548.7

KOVAL', YU. N., TITOV, P. V., and KHANDROS, L. G., Institute of Metal Physics, Academy of Sciences Ukr SSR

"Change in the State of Hardened Steel at Low Temperatures"

Kiev, Metallofizika, No 32, 1970, pp 85-88

Translation: The relationship among processes occurring in manganese steel over various temperature ranges from -196 to 20°C with a change in electric resistance and magnetization is examined. The effect of the carbon content on these processes is evaluated. A comparison is made of the amount of energy for activating the process of lowering electric resistance at various stages of isothermal holding. The temperature dependence of the initial rate of change in electric resistance over the range from -100 to 100°C is studied.

It is shown that the martensite transformation increases electric resistance. A reduction in electrical resistance above 100°C is connected with the order or carbon, its interaction with defects, and relaxation of strain.

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USSR

UDC 539.4.015 + 534.141.2

DONUKIS, T. L., SAVVAKIN, G. I., TITOV, P. V., and KHANDROS, L. G., Institute of Metal Physics, Academy of Sciences UkrSSR, Kiev

"Steel Strengthening by Explosive Loading"

Kiev, Fiziko-Khimicheskaya Mekhanika Materialov, Vol 6, No 4, 1970, pp 32-35

Abstract: Metal strengthening by means of impulse loading is based on the distribution of a compression impulse through a solid body, whose amplitude exceeds the fluidity limit by ten to hundred-fold, causing structural and phase changes in the material. This phenomenon occurs without manifested macroscopic changes in the material. Structural changes and the strengthening connected with it are due to the mechanical action of the shock wave and the temperature changes accompanying it. Therefore the strengthening depends on the load and the form and volume of specimens subjected to the shock. In this study steel strengthening was achieved by explosive deformation. A diagram for the experimental setup is included. The greatest strengthening was observed with extensive final deformations, and was accompanied by pulverization of mosaic blocks. Block pulverization increases with longer action of the force, but does not depend on the pressure itself.

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1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--CHANGE IN THE ELECTRICAL RESISTANCE OF HARDENED RHENIUM STEEL AT TEMPERATURES BELOW ROOM TEMPERATURE -U-

AUTHOR-(03)-KOVAL, YU.N., TITOV, P.V., KHANDROS, L.G.

K

COUNTRY OF INFO--USSR

SOURCE--FIZ. METAL METALLOVED. 1970, 29(3), 649-51

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--ELECTRIC RESISTANCE, RHENIUM CONTAINING ALLOY, MANGANESE STEEL, MARTENSITE, ORDERED ALLOY, AUSTENITE, STEEL QUENCHING

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0342 STEP NO--UR/0126/70/029/003/0649/0651

CIRC ACCESSION NO--AP0126098

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126098

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE MN STEELS AND RE STEELS (CONTG. C 1.8, AND RE 6 WT. PERCENT, MARTENSITIC POINT NEGATIVE 80DEGREES), WHEN RAPIDLY QUENCHED FROM THE AUSTENITIC STATE TO NEGATIVE 196DEGREES, UNDERGO FORMATION OF MARTENSITE WITH ANOMALOUS TETRAGONALITY, WHICH ON WARMING UP TO ROOM TEMP. ASSUMED NORMAL TETRAGONALITY. IN MN STEELS THIS EFFECT WAS ACCOMPANIED BY INCREASED ELEC. RESISTANCE (BY SIMILAR TO 2PERCENT) OF MARTENSITE WITH ANOMALOUS TETRAGONALITY, AND THE RETURN TO THE NORMAL VALUE OF ELEC. RESISTANCE WHEN MARTENSITE ASSUMED NORMAL TETRAGONALITY. SPECIMENS OF RE STEEL WERE HELD ABOVE THE SURFACE OF LIQ. N AND THERE WAS A TEMP. DROP ACROSS THE THICKNESS OF THE SPECIMEN OF SIMILAR TO 1DEGREE, AND THE EMF REACHED SIMILAR TO 0.01 MV. THE OBSD. INCREASE OF ELEC. RESISTANCE IN RE STEELS IS BELIEVED TO RESULT FROM THE INCREASED AMT. OF MARTENSITE, WHILE THE LOWERING OF ELEC. RESISTANCE ON WARMING UP IS CAUSED BY THE ORDERING PROCESSES IN MARTENSITE. FACILITY: INST. METALLOFIZ., KIEV, USSR.

UNCLASSIFIED

USSR UDC 621.762.27

SKOROKHOD, V. V., KHRIYENKO, A. F., SOLONIN, YU. M., and KHAIDROS, L. L., Institute of Problems of Material Science, Academy of Sciences Ukrainian SSR

"Study of Packing Defects in Electrolytic Nickel Powder"

Kiev, Poroshkovaya Metallurgiya, No. 10, Oct 70, pp 9-13

Abstract: A study is presented of the kinetics of isothermal annealing of packing defects in electrolytic nickel powder at 141 and 191°C. The probability of the emergence of packing defects was calculated from the anisotropy of blocks for directions [111] and [100]. It is suggested that the hydrogen present in the powder in amounts of 0.0075 to 0.0035% is responsible for the decrease in defect formation energy. On dissolution in nickel, hydrogen becomes ionized; the released electrons are captured by the s-d band. Since hydrogen increased the number of s-d electrons per atom, it is bound to decrease the packing defect energy. Annealing

USSR

SKOROKHOD, V. V., et al. Poroshkovaya Metallurgiya, No. 10, Oct 70, pp 9-13

at 200--300°C markedly reduces the concentration of packing defects without an appreciable decrease in dislocation density. Mathematical treatment of the relationship between the effective energy of packing defects and temperature at various mean hydrogen concentrations shows that with annealing temperatures above 141°C, the hydrogen concentration on the packing defect will approach equilibrium at reasonably low annealing durations.

2/2

USSR UDC 576.851.1

FAYZULINA, S. I., KHANDUYEV, Ts. Ts., IMANOV, E. D., GUSEV, B. N., and MAKAROVA, Ye. V., Institute of Biochemistry and Physiology, Academy of Sciences Kirgiz SSR

"Dynamics of Development of Negative Colonies of the Virus of Contagious Ecthyma (Sheep Pox) in Cell Cultures"

Frunze, Izvestiya Akademii Nauk Kirgizskoy SSR, No 1, Jan/Feb 72, p 51

Abstract: Upon infection with the virus of contagious ecthyma or sheep pox (culture strains A and KK), monolayer cell cultures of the skin and kidney of sheep embryos, and the kidney epithelium of adult sheep grown on Hanks medium were treated with an agar solution, so that an agar coating formed and negative colonies (plaques) were observed in tissue cultures. The plaques had a round shape. After staining with methylene blue, degenerated and enlarged intensively stained cells were observed along the edges of the plaques, while in the central section of the plaques, only stained debris of destroyed cells were detected. In cultures of skin and kidney cells of sheep embryos, macroscopically visible plaques appeared on the 4th to 5th day of incubation. The maximum number of plaques not exceeding 1 mm in diameter had formed up to that time. Subsequently, the number of plaques increased at an insignificant

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USSR

FAYZULINA, S. I., et al., Izvestiya Akademii Nauk Kirgizskoy SSR, No 1, Jan-Feb 72, p 51

rate, reaching an upper limit on the 9-10th day of cultivation. In cultures of adult sheep kidney cells, the maximum number of plaques (60-70%) had formed on the 5-7th day. Their diameter was $\leq$ 1 mm at that time. The number of plaques reached an upper limit on the 10-12th day. Their maximum diameter was 4-5 mm on the 10th day of cultivation.

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1/3 035 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--EXPERIMENT IN THERMAL SOUNDING OF THE ATMOSPHERE FROM SATELLITES -U-

AUTHOR-(05)-KONDRATYEV, K.YA., NORDBERG, V., POKROVSKIY, O.M., TIMOFEYEV, YU.M., KHANEL, B.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, DOKLADY AKADEMII NAUK SSSR, VOL 191, NO 6, 1970, PP 1274-1276

DATE PUBLISHED--------70

SUBJECT AREAS--SPACE TECHNOLOGY, ATMOSPHERIC SCIENCES

TOPIC TAGS--TEMPERATURE, MEASUREMENT, INTEGRAL EQUATION, EARTH RADIATION, THERMAL RADIATION, SATELLITE DATA ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0050 STEP NO--UR/0020/70/191/006/1274/1276

CIRC ACCESSION NO--AT0129332

UNCLASSIFIED

2/3 035 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0129332

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM OF THERMAL SOUNDING OF THE ATMOSPHERE ESSENTIALLY INVOLVES SOLUTION OF A FREDHOLM INTEGRAL EQUATION OF THE FIRST KIND: I(V) INTEGRAL FUNCTION OF K(GAMMA, P) PHI (P) DP. TWO METHODS ARE USED IN THIS STUDY FOR SOLVING INTEGRAL EQUATION (1): THE REGULARIZATION METHOD (A. N. TIKHONOV, DAN, 153, NO 1, 34, 1963) WITH CHOICE OF A QUASI OPTIMUM APPROXIMATION BY A METHOD PROPOSED BY ONE OF THE AUTHORS AND THE M. T. CHAHINE METHOD (J. OPT. SOC. AM., 58, NO 12, 1934, 1968), BASED ON MINIMIZING THE MEAN SQUARE DIFFERENCE BETWEEN THE MEASURED AND THEORETICALLY COMPUTED RADIATION VALUES. IN BOTH METHODS THE INITIAL INFORMATION, THE MAGNITUDE OF OUTGOING RADIATION, AND KERNEL OF THE EQUATION COINCIDED. COMPARISON OF THE TWO METHODS REVEALS A GOOD GENERAL AGREEMENT BETWEEN DIRECT AND INDIRECT TEMPERATURE DETERMINATIONS. HOWEVER, ERRORS IN DETERMINING TEMPERATURE FROM SATELLITE DATA IN SOME CASES ARE CONSIDERABLE, ATTAINING APPROXIMATELY 10DEGREES NEAR THE 100 MB LEVEL IN INTERPRETATIONS BY THE CHAHINE METHOD AND 8DEGREES BY THE REGULARIZATION METHOD. THE STANDARD DEVIATIONS FOR BOTH INTERPRETATION METHODS ARE APPROXIMATELY IDENTICAL AND CLOSE TO 3DEGREES. RELATIVELY LARGE ERRORS IN INDRIECT DETERMINATION OF TEMPERATURE CAN BE ATTRIBUTED TO A NUMBER OF FACTORS: ERRORS IN MEASURING RADIATION, ERRORS IN STIPULATING THE KERNEL OF EQUATION (1), ERRORS IN NUMERICAL SOLUTION OF THE INTEGRAL EQUATION (APPROXIMATION ERRORS, ERRORS IN ROUNDING OFF). THE PRINCIPAL SOURCES OF ERRORS ARE THE FIRST TWO. ERRORS IN STIPULATING THE KERNAL OF EQUATION (1) ARE PARTICULARLY IMPORTANT.

UNCLASSIFIED

3/3 035 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AT0129332

ABSTRACT/EXTRACT--DESPITE A HIGH MEASUREMENT ACCURACY THESE ERRORS CONSIDERABLY LOWER THE ACCURACY IN RECONSTRUCTING THE TEMPERATURE PROFILE. THE SINGLE EXAMPLE CITED IN THIS ARTICLE OF A COMPARISON BETWEEN THE TWO INTERPRETATION METHODS DOES NOT MAKE IT POSSIBLE TO DRAW SERIOUS CONCLUSIONS CONCERNING THE ADVANTAGES OF THE DIFFERENT APPROACHES TO SOLUTION OF THE PROBLEM. HOWEVER, THE REGULARIZATION METHOD MADE POSSIBLE A MORE PRECISE RECONSTRUCTION OF THE TEMPERATURE PROFILE IN THE REGION ABOVE 100 MB AND WAS SOMEWHAT POORER THAN THE CHAHINE METHOD IN THE PRESSURE RANGE FROM 100 TO 500 MB.

FACILITY: LENINGRAD STATE UNIVERSITY.

UNCLASSIFIED

USSR UDC 621.375.82

GAPRINDASHVILI, KH. I., GVATUA, SH. SH., MUMLADZE, V. V., KHANEVICHEV, V. A., and CHAVCHANIDZE, V. V.

"Threshold, Time, and Spectral Characteristics of a Fiber Laser"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 2(14), Moscow, "Sov. Radio," 1973, pp 25-30 (English summary) (from RZh-Fizika, No 10, Oct 73, Abstract No 10D833 from authors' abstract)

Translation: The article studies the time character and spectral composition of radiation in the prethreshold, threshold, and superthreshold states of a fiber laser with the core doped with 6 wt.% Nd_2O_3. In the subthreshold stage, simultaneously with a decrease in the pulse length, there is a narrowing of the radiation spectrum of the active glass fiber to a quantity less than 100 Å. At the threshold pumping energy the stimulated radiation is of a quasicontinuous character and has a pulse length $\Delta\tau = 75 \div 200$ microseconds and a half-width $\Delta\lambda < 0.017$ Å. It is shown experimentally that all the time and spectral stimulated-radiation characteristics known for solid-state lasers are realized relatively simply in a fiber laser. Bibliography with 18 titles.

1/1

USSR

UDC 678.746

VARDOSANIDZE, TS. N., GVATUA, SH. SH., GEORGADZE, YE. Z., KAPANADZE, V. I., MUMLADZE, V. V., KHANEVICHEV, V. A., CHAVCHANIDZE, V. V., Corresponding Member of the Georgian Academy of Sciences SSR, CHAGULOV, V. S., and CHKHIKVISHVILI, L. V., Institute of Cybernetics, Academy of Sciences Georgian SSR

"Several Spectral Characteristics of Polystyrene Activated with Europium Chelate"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, Vol 63, No 3, Sep 71, pp 581-584

Abstract: The spectral characteristics of Eu^{3+} chelates have been investigated by a number of authors both in methylmetacrylate and in alcohol solutions. In this article the authors investigate samples of polystyrene doped with 0.02-2 Wt % europium benzoyl acetonate; the samples are 15 mm in diameter and 2 mm thick. They find that such a material exhibits a strong absorption in the region of 3000-4000 Å and the material of the base that is, polystyrene has strong absorption bands in the ultraviolet band of the spectrum; however, it is fully transparent from 3000 Å and up to 1.1μ . The luminescence and absorption spectra are graphically illustrated. The authors find that polystyrene is a successful base for europium benzoyl acetonate. The article contains 3 illustrations and 8 bibliographic entries.

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1/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--BIOLOGICAL CHARACTERISTICS OF THE PHAGES OF ENTEROPATHOGENIC E. COLI, REPORT IV -U-

AUTHOR-(02)-BORISOV, L.B., KHANFIMINA, V.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 6, PP 34-37

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ESCHERICHIA COLI, PHAGE, LYCINE, MORPHOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3001/0724 STEP NO--UR/0016/70/000/006/0034/0037

CIRC ACCESSION NO--AP0126436

UNCLASSIFIED

2/2 017 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126436

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS DESCRIBE BIOLOGICAL PROPERTIES OF FIVE COLI PHAGES ISOLATED FROM SEWER WATER. ALL THESE PHAGES DIFFERED BY ANTIGENIC PROPERTIES, TEMPERATURE TOLERANCE, RELATION TO UREA, BY MORPHOLOGY OF STERILE STAINS, F SIGN (LYSIN FORMATION) AND ADSORPTION PROPERTIES. BY SPECIFICITY AND RANGE OF LYTIC ACTION TWO PHAGES WERE REFERRED TO THE E. COLI 026 GROUP OF PHAGES, AND TWO TO E. COLI 0124. FACILITY: I LENINGRADSKIY MEDITSINSKIY INSTITUT IM PAVLOVA.

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201310004-8"

USSR

UDC 616.981.452-022.39-036.23-078.7(479)

CHERCHENKO, I. I., OGANYAN, Ye. F., YUNDIN, Ye. V., NAYDEN, P. Ye., YEMEL'YANOV, P. F., GOLUBEV, P. D., FILIMONOVA, Yu. A., GONCHAROV, A. I., LABUNETS, N. F., BABAYEV, M. R., ANANYAN, Ye. L., and KHANGULYAN, E. K., Scientific Research Antiplague Institute of the Caucasus and Transcaucasus, and Antiplague Stations, Azerbaydzhan SSR and Armenian SSR

"Experience in Serological Detection of Plague in Rodent Nest Substrate and in Predatory Bird Pellets Under Field Conditions in Natural Foci of the Caucasus"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 15-20

Abstract: Use of the antibody neutralization reaction (ANR) employing plague antigenic erythrocyte diagnosticum was studied as a serological alternative to detection of plague by bacteriological analysis, for which it is not always possible to gather test material in the field. The study was based on the experimental finding that plague F1 antigen persists in the environment long after an epizootic has subsided. In the first phase, three areas in the Caucasus in which epizootics had been registered previously were studied in 1969-1971. Samples of rodent nest substrate were found to contain F1 antigen by the ANR, whereas bacteriological methods were generally unsuccessful,

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CHERCHENKO, I. I., et al., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 3, 1973, pp 15-20

indicating the usefulness of this method for retrospective analysis. In the second phase an area in which epizootics had not been recorded previously was studied in 1970-1971. While the ANR revealed the presence of F1 antigen in rodent nest substrate, bacteriological analysis did not produce such evidence until 4 months later. This result indicated that the method is also preferential for early detection of plague epizootics. In the final phase pellets regurgitated by predatory birds feeding on plague-carrying rodents were subjected to the ANR. Once again F1 antigen was detected in areas without previous epizootic history up to 2 months prior to detection by bacterial analysis. As a control pellets from an area known to be free of plague for 40 years was subjected to the ANR, and the results were negative. Thus the ANR is shown to be a suitable and preferential method for retrospective and early field detection of natural plague foci.

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USSR UDC 616.981.452-022.39:595.775.1]-078.7+576.851.45.095.38:576.895.

775

CHERCHENKO, I. I., OGANYAN, Ye. F., YUNDIN, Ye. V., ANANYAN, Ye, L., KHANGULYAN, E. K., GOLUBEV, P. D., and GONCHAROV, A. I., Scientific Research Antiplague Institute of the Caucasus and Transcaucasus and Armenian Antiplague Station, Ministry of Health USSR

"Experience in Serological Examinations of Fleas of Rodents for Plague"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973, p 137

Abstract: The minimum number of infected fleas required for a positive serological result is not more than 5 in a mixture with 25 noninfected specimens. The results of serological tests are available within 24 hrs after infection of the test fleas if they are kept at 25°C in a 2% NaCl solution containing 0.002% gentian violet and 1% formalin which effectively extracts plague pathogen PI antigen from the tissue of the insects and preserves it for at least 45 days. The solution with or without the fleas can be used for the serological test which involves neutralization of antibodies with standard plague antigenic erythrocyte diagnosticum. The method was verified in field work. In the summer of 1969, 85 samples containing a total of 2,397 fleas collected from field mice and their holes in Transcaucasia were analyzed with both methods in parallel. The serological method detected antigen PI in 57 samples, while the

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CHERCHENKO, I. I., et al., Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973, p 137

bacteriological method yielded cultures of plague pathogen in only 21 samples. In summer 1971, positive results were obtained by the serological method in 24% of samples of fleas collected from gophers in the Caucasian Mountains. Subsequently, the bacteriological method used in October 1971 yielded positive results for the first time in that region. The faster and more sensitive serological method is recommended for territorial surveys of plague pathogen.

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USSR

UDC 56.07:539.217.1

SARAYEVA, G. D., and KHANIN, A. A., All-Union Scientific Research Institute of Natural Gas

"A Comparative Analysis of the Methods for Studying Open Porosity"

Moscow, Geologiya Nefti i Gaza, No 1, Jan 73, pp 40-42

Abstract: The theoretical errors were calculated for the kerosene saturation and the helium porosimeter methods for studying open porosity. It was shown to be possible to obtain a relative error of ± 1% for the kerosene saturation method, while the gasometric method has an error of ± 3%. It was further demonstrated that the use of air, rather than an inert gas, as the working substance of the porosimeter will significantly elevate results, unless soprtion is minimized by having the rocks at maximal hygroscopic moisture.

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USSR

UDC: 629.735.33

KHANIN, I. A.

"The Effect of Gas Jet Vane Efficiency on the Characteristics of Vertical Take-Off and Landing Aircraft"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya Tekhnika, No 1, 1973, pp 98-102

Abstract: The author studies the effect of gas take-off from the power unit for a gas jet control system on the characteristics and parameters of a vertical take-off and landing aircraft. The concept of gas jet vane efficiency is introduced. Formulas are derived which relate the primary characteristics of the aircraft and the efficiency of the gas jet vanes: e(efficiency of the gas jet vanes) equals epsilon (angular acceleration) over G (gas expenditure through the control nozzle). A design method is proposed for significantly increasing the efficiency of gas jet control. The results of the study show that by increasing the value of e, it is possible to reduce the relative required fuel reserve weight and the weight of the power plant.

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USSR UDC: 621.362.2(088.8)

KHANIN, M. A., DIDORENKO, N. S., DUDKIN, L. D., MAZUR, V. A., KOLOMOYERS, N. V., ZYKOVA, N. P.

"A Commutation Line"

USSR Author's Certificate No 256002, filed 2 Jan 68, published 19 Mar 70 (from RZh-Elektrotekhnika i Energetika, No 10, Oct 70, Abstract No 10A163 P)

Translation: This Author's Certificate introduces a commutation line for a thermocouple produced by combined hot powder pressing. As a distinguishing feature of the patent, the line is made from aluminum powder which is partially oxidized (by 5-20 percent). This makes it possible to increase the working temperature to 600°C.

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UDC 621.362.2(088.8)

BEYLIN, A. Yu., DUDKIN, L. D., ZYKOVA, N. P., KOLOMEYETS, N. V. MAZUR, V. A., TARTAKOVSKIY, D. L., KHANIN, M. A.

"A Thermocouple"

USSR Author's Certificate No 227428, Filed 6 Jul 67, Published 20 Jan 70 (from RZh-Electrotekhnika i energetika, No 8, Aug 70, Abstract No 8A127 P)

Translation: The proposed thermocouple contains a P-branch of germanium telluride, a commutation bus of iron, and a commutation substrate. A mechanical mixture of tungsten and tin telluride, or tungsten and lead telluride is used as the commutation substrate. This is to improve mechanical strength and reduce power lost in commutation.

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USSR

UDC 621.382

KORNETOV, V. N., KHANIN, V. A.

"Equipment for Simultaneous Investigation of the Hall Effect and the Volt-Farad Characteristics of a Metal-Dielectric-Semiconductor Structure"

Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. (Apr. 1970 g). Sekts. Elektron. tekhniki. Podsekts. Poluprovodnikovykh priborov. (Report of the Scientific-Technical Conference on the Results of Scientific-Research Work During 1968-1969 (Apr. 1970). Electronic Technology Section. Semiconductor Devices Subsection), Moscow, 1969, pp 54-58 (from RZh—Elektronika i yeye primeneniye, No 3, Mar 70, Abstract No 3B156)

Translation: Equipment for investigation of the Hall effect and the volt-farad characteristics of triodes with a metal-dielectric-semiconductor structure is briefly described, and the principal circuit of the equipment is shown. 2 ref. V. K.

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USSR

UDC 53:07/.08

KORNETOV, V. N., KHANIN, V. A.

"An Installation for Simultaneously Studying Field Effect and Volt-Farad Characteristics of Metal-Dielectric-Semiconductor Structures"

Dokl. Nauchno-tekhn. konferentsii po itogam nauchno-issled. rabot za 1968-1969 gg. (Apr. 1970 g.). Sekts. Elektron. tekhniki. Podsekts. Poluprovodnikovykh priborov (Reports of the Scientific and Technical Conference on the Results of Scientific Research Work for 1968-1969 (Apr. 1970). Electronic Technology Section. Subsection on Semiconductor Devices), Moscow, 1969, pp 54-58 (from RZh-Fizika, No 1, Jan 70, Abstract No 1A312)

Translation: A description is given of an experimental system for simultaneous observation of the field effect and volt-farad characteristics of a single specimen. A special triode structure is used in which the width of the shutter is considerably greater than the width of the gap. This structure makes it possible to disregard processes which take place in the gap when measuring volt-farad characteristics. Resume.

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1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--SATURATED ABSORPTION ON A 1.06 MU WAVELENGTH IN GLASS -U-

AUTHOR-(03)-BONCHBRUYEVICH, A.M., POTAPOV, S.YE., KHANIN, YA.I.

COUNTRY OF INFO--USSR

SOURCE--OPT. SPEKTROSK. 1970, 28(1), 203-5

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--GLASS PROPERTY, NEODYMIUM GLASS, GLASS STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/0634 STEP NO--UR/0051/70/028/001/0203/0205

CIRC ACCESSION NO--AP0119546

UNCLASSIFIED

2/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119546

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABSORPTION SATN. CENTERS APPEAR IN GLASSES AS A RESULT OF GLASS MATRIX PROPERTIES AND ARE NOT AFFECTED BY THE PRESENCE OF ND PRIME3 POSITIVE IN GLASS.

UNCLASSIFIED

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K

UDC 621.375.9:535+535.34

BONCH-BRUYEVICH, A. M., POTAPOV, S. Ye., KHANIN, Ya. I.

"Saturating Absorption at Wavelength 1.06μ in Glass"

Leningrad, Optika i Spektroskopiya, Vol 28, No 1, Jan 70, pp 203-205

Abstract: It was previously shown by the authors that the spike structure of laser radiation due to saturating absorption in neodymium-doped glass is found only under the action of pumping radiation with $\lambda \leq 450$ nm. The present article describes experiments staged for the purpose of ascertaining whether the action of this radiation results in population of high energy states of neodymium ions from which further absorption at the generation wavelength is possible, or whether saturating absorption is stimulated by the short-wave sector of the pumping spectrum in the glass matrix itself regardless of whether Nd^{3+} ions are present in it. It was found that saturating absorption occurs in the glass regardless of the presence of the neodymium dopant and is stimulated by relatively short-wave pumping radiation. An estimate was made of the parameters characterizing the stimulated saturating absorption in the glass. It is suggested that the appearance of centers of saturating absorption is determined by the properties of the glass matrix and is not due to its activation by neodymium

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002201310004-8"

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BONCH-BRUYEVICH, A. M., et al., Optika i Spektroskopiya, Vol 28, No 1, Jan 70, pp 203-205

ions. A rod of inactivated glass placed in the cavity together with an active body can be used as a solid shutter controlled by ultraviolet irradiation. The pulse repetition rate of the laser radiation can be varied within a wide range by changing the ultraviolet irradiation intensity.

The authors thank I. M. Buzhinskiy for his assistance in the work and useful discussions.

USSR

UDC 621.375.82

GUREVICH, G. L., INGEL', L. Kh., KHANIN, Ya. I.

"Effect of a Nonlinear Lens on the Stability of Steady-State Laser Oscillation"

V sb. Kvant. elektronika (Quantum Electronics -- Collection of Works), No 3, Moscow, "Sov. radio," 1972, pp 45-52 (from RZh-Fizika, No 1, Jan 73, Abstract No 1D882)

Translation: The problem of the stability of stationary laser oscillation when a medium is present in its resonator, the refractive index of which depends on the radiation intensity, is discussed. It is shown that the instability threshold drops as diffraction losses rise. The value of the threshold is determined for cases in which an inertialess nonlinear dielectric plays the role of such a medium or the substance itself is active. 13 ref. Authors' abstract.

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Acc. Nr.: AP0029426

Ref. Code: UR 0297

PRIMARY SOURCE: Antibiotiki, 1970, Vol 15, Nr 1, pp 34-37

DEVELOPMENT OF MULTIPLE DRUG RESISTANCE IN BACTERIA REPEATEDLY TREATED WITH TETRACYCLINE

M. F. Khaning, V. V. Potapov, A. A. Terekhov

N. F. Gamaleya Institute for Epidemiology and Microbiology, Academy of Medical Sciences of the USSR, Moscow

On passages to media containing increasing concentrations of tetracycline the strains of E. coli acquired higher resistance levels to tetracycline and at the same time became resistant to chloramphenicol, streptomycin, penicillin. Other properties, such as requirements in growth factors, morphology, multiplication rate also changed in most of the polyresistant mutants studied. It is supposed that decrease in sensitivity to other drugs in tetracycline resistant mutants was associated with impaired transport of substances inside the cell.

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REEL/FRAME

6

KHANKHODZHAYEV, T.

Cotton growing

EFFECTIVENESS OF UZBEK COTTON INSTITUTE CRITICIZED

[Article by T. Khankhodzhayev, Division Chief, Uzbek People's Control Committee and G. Tokhtakhodzhayev, Committee Inspector: "Dissertations for the Sake of Dissertations"; Tashkent, Pravda Vostoka, Russian, 19 March 1972, p 3]

The All-Union Scientific Research Institute of Cotton Growing, holder of the Order of Lenin, is well known. Many achievements in agriculture, affecting not only Uzbekistan, but all the cotton-growing republics of the country, are linked with its name. It was from the Institute's experimental plots that the first high-yield varieties of cotton reached the fields. The Institute's scientists, who in the past had no high-sounding titles and who had no thoughts of personal fame, made their institute famous.

The All-Union Scientific Research Institute of Cotton Growing was the symbol of progressive cotton growing. It was also the symbol of a merging of science and up-to-date practice.

Ten years passed and the Institute grew. There are more than 850 staff members in it now, of which 130 have the degree of Doctor or Candidate of Science. All the necessary conditions for productive scientific work have been created. The Institute's technical equipment is beyond comparison. The State has not spared resources for scientific development. It goes without saying that the Institute's output should have grown in proportion to the State's support of it.

The workers in the fields, with the help of science, have achieved great success in growing "white gold". No one is surprised any more by yields of 30-40 quintals of cotton per hectare. But at the same time there are quite a number of so-called low-yield regions in the republic, where the yield is only 10-20 quintals per hectare. It is the civic duty of the scientists to research thoroughly all the problems connected with obtaining high and stable yields in these low-yield regions, regions which are measured in hundreds of thousands of hectares. To raise their productivity to the republic average would mean to bring in many thousands of tons more cotton. Isn't this a task of paramount importance for a leading institute?

USSR UDC: 8.74

KULINKOVICH, A. Ye., KHANKIN, A. L.

"A Program for Computer Calculation of Lateral Logging Curves"

V sb. Avtomat. obrabotka i preobrazov. geofiz. inform. (Automatic Processing and Conversion of Geophysical Information--collection of works), No 5, Moscow, "Nedra", 1972, pp 97-106 (from RZh-Kibernetika, No 5, May 72, Abstract No 5V550)

Translation: A computer program in ALGOL-60 is presented for calculating lateral logging curves. The program gives a set of master curves for any ratios between the diameters of the zone of penetrations and the well, sets of master curves for probes based on measurement of an arbitrary potential of zero, first, second and third orders, and also for multiplicative resistance combinations. Authors' resumé.

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USSR

UDC 614.1:613.63:665.55

KHANLAROV, N. D., and ALEKPEROV, I. I.

"Illness Rate of Workers in a Petroleum Processing Plant in Connection with Their Working Conditions (A Dynamic Observation)"

Baku, Azerbaydzhanskiy Meditsinskiy Zhurnal, Vol. 47, No 7, Jul 70, pp 50-55

Abstract: As part of an analysis of the illness rate as a function of work capacity, the sanitary hygienic conditions in various plants were studied. Over a period of 3 years, 10,999 cases of time loss from work were analyzed. A relationship was established between general indicators of illness rate and working conditions. Higher rates of illnesses of the nervous system were found among workers in heavy industry (processing of petroleum hydrocarbons). The digestive organs are attacked more frequently among workers involved in the ethylation of benzene. The incidence of illness of the respiratory organs and eyes was found to be high in plants where slaked lime is used. Hypertension was highest among laboratory workers. The data gathered in the study will be used in the development of prophylactic measures for factories.

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USSR

UDC: 51

KHANMAMEDOV, O. K., AYDA-ZADE, K. R.

"A Method of Global Optimization With 'Smoothing' of the Initial Function"

Za tekhn. progress, 1973, No 1, pp 9-11 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V507 by the authors)

Translation: The paper deals with a method of global extremization of a function with many extrema. The procedure of global extremization is broken down into two procedures: unimodalization in which the original problem is reduced to minimizing an equivalent unimodal function whose minimum coincides with the global minimum, and local descent on the resultant one-extremum function. The procedure of unimodalization is a Lagrange variational problem. The convergence of the procedure to a limiting variational problem is proved.

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USSR UDC: 621.371.1

STREZH, P. Ye., KHANNA, M. A.

"On the Reflection of Electromagnetic Waves in a Quasilaminar Isotropic Medium"

V sb. Radiofiz. i rasprostr. elektromagnitn. voln (Radio Physics and Propagation of Electromagnetic Waves--collection of works), Moscow, 1970, pp 101-107 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12A231)

Translation: The paper deals with reflection which is not localized at the interface of two media, but rather extends throughout a nonhomogeneous medium. The medium is isotropic, and the permittivity is a continuously differentiable function of the coordinates. The incident plane monochromatic wave is horizontally polarized. Bibliography of seven titles. N. S.

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USSR

UDC 539.375

VLADIMIROV, V. I., KHANNANOV, SH. KH.

"Effect of the Interaction of the Edges of a Crack on Its Nucleation Conditions"

Tr. Leningr. politekhn. in-ta (Works of Leningrad Polytechnical Institute), 1971, No. 322, pp 12-17 (from RZh-Mekhanika, No 3, Mar 72, Abstract No 3V780)

Translation: Conditions for the nucleation of a dislocation crack in the head of a hindered dislocation pile-up was previously considered by the authors, taking into account the mobility and discreteness of the dislocations but not considering the interaction of the edges of the crack. The effect of attraction of the edges of the crack on its configuration in the Leonov-Panasyuk model is taken into account. This interaction may be considerable considering an incipient microcrack with dimensions comparable to the radius of action of the forces of interaction of the edges. According to this model the forces of interaction between the edges of the crack have a constant density σ_0 (the limit of the theoretical density of the material) independent of the distance between the edges in a range less than the radius of action of these forces $v_0(\sigma_0 v_0 = 2\gamma$, γ is the specific surface energy). Also studied in the paper is the effect of this attraction of the edges on the nature of the interaction of the crack with

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VLADIMIROV, V. I., KHANNANOV, SH. KH., Tr. Leningr. politekhn. in-ta, 1971, No. 322, pp 12-17

dislocations of a pile-up. To determine the two unknown constants entering into the solution (the length of the crack and the length of the region of interaction of the edges) the condition of finite stresses at the end of the crack and its constant opening is used. The results obtained are used to study the incipient crack, when the number of dislocations in the crack is equal to 2 for various radii of the action of the binding forces of the edges of the crack. In addition to this the interaction of a single breakdown dislocation with a crack is studied to investigate conditions for the generation of cracks. It is concluded by the authors that calculations of small cracks with a length of the order of the radius of action of atomic forces can be fairly accurately carried out in the approximation $v_0 \to 0$. 7 ref. V. Z. Parton.

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USSR UDC 548.4

VLADIMIROV, V. I., and KHANNANOV, Sh. Kh., Physicotechnical Institute imeni A. F. Ioffe

"The Formation of Cracks in the Braked Slip Band"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 31, No 4, Apr 71, pp 838-842

Abstract: A study is made of the formation of cracks of various types in the braked slip band. Taken into account are conditions under which the slope sides lose their stability and begin to disintegrate. The conditions under which cracks develop perpendicularly to slip lines in their fore part were established. When the development of cracks parallel to the slip lines is related to the break of dislocation sides in the band, their origination is specified by conditions of the coming disintegration of slope sides. It is shown that the strength of slope sides is characterized by a dimensionless factor which can be determined from a given system of equations of the configuration of the bent slope side. The bending of slope sides and their stability in an inhomogeneous stress field created in the slip band by other slope sides is analyzed. One illustr., seven formulas, eleven biblio. refs.

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USSR

UDC 539.4.01

VLADIMIROV, V. I., and KHANNANOV, Sh. Kh., Physico Technical Institute imeni A. F. Ioffe, Academy of Sciences USSR

"Plastic Mechanism of Crack Growth"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70, pp 1270-1278

Abstract: The mechanism of blunt crack development was investgated from which it was shown that these cracks are intermittently developed by means of absorption of small dislocation cracks. Qualitative and quantitative results were obtained on the relative conditions of nucleation and coalescence of small cracks.

Development of a main crack may be limited by different processes in relation to the magnitude of parameter m ($m = \sigma\sqrt{l}/(\sigma\sqrt{\ell})G$). At small values of m the development of a main crack is limited by the coalescence process of counter dislocation cracks, and at large values of m-by process of their nucleation. For a given m the counteracting cracks can be nucleated at some critical distance from the apex of the main crack. This causes a

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VLADIMIROV, V. I., and KHANNANOV, Sh. Kh., Fizika Metallov i Metallovedeniye, Vol 30, No 6, Dec 70, pp 1270-1278

discontinuity in development of the main crack. In view of the same mechanism of development the main crack again becomes blunt after each job. The rapid development of the main crack starts only when its dimensions in the process of plastic development grow substantially inasmuch as m is increased then and the tensile stresses in the apex of the blunt crack can achieve values of the theoretical strength of a material.

The authors express their thanks to A. N. ORLOV for his evaluation of the work.

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USSR

UDC 548.4

VLADIMIROV, V. I., and KHANNANOV, Sh. Kh., Physico Technical Institute imeni A. F. Ioffe

"Pressing Problems in the Theory of the Formation of Dislocation Cracks"

Sverdlovsk, Fizika Metallov i Metallovedeniye, Vol 30, No 3, Sep 70, pp 500-510

Abstract: A review is made of the results of theoretical works on the [illegible] of dislocation cracks performed in recent years. Important results are [illegible] in the classification of old models of crack formation. It is determined that consideration of the discrete nature of dislocations and their mobility [illegible] process of opening of a crack leads to easier conditions of formation than those indicated by the old investigations, and that combination of the first few dislocations occurs due to thermal fluctuations. The last section discusses the principal problems of the theory of crack formation as a portion of the theory of defects in crystals.
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CSO: 1642-N

- END -

1/2 026 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--INTERSECTING ARRAYS OF EDGE DISLOCATIONS -U-

AUTHOR-(02)-VLADIMIROV, V.I., KHANNANOV, SH.KH.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA TVERDOGO TELA, MAR. 1970, 12, (3), 856-859

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--METAL, CRACK PROPAGATION, CRYSTAL LATTICE DISLOCATION, DISTRIBUTION FUNCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/0154 STEP NO--UR/0181/70/012/003/0856/0859

CIRC ACCESSION NO--AP0129410

UNCLASSIFIED

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2/2 026 UNCLASSIFIED

CIRC ACCESSION NO--AP0129410 PROCESSING DATE--27NOV70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROBLEM OF INTERSECTING ARRAYS OF EDGE DISLOCATIONS IS DISCUSSED THEORETICALLY IN CONNECTION WITH THE DEVELOPMENT AND PROPAGATION OF CRACKS IN METALS AND OTHER MATERIALS. AN ANALYTICAL METHOD OF SOLVING THE PROBLEM OF TWO SYMMETRICAL ARRAYS OF EDGE DISLOCATIONS INTERSECTING AT AN ARBITRARY ANGLE AND DETERMINING THEIR DISLOCATION DISTRIBUTION IS PRESENTED. THE BEHAVIOUR OF THE DISTRIBUTION FUNCTION IS SENSITIVE TO THE ANGLE OF INTERSECTION. A COMPLETE SOLUTION IS GIVEN FOR THE CASE OF A RIGHT ANGLE.

UNCLASSIFIED

USSR

UDC 632.95

KHANNANOV, T. M., FATKULLINA, N. S., KULAKOV, V. N., LOZBEN', I. F., GOLUBEVA, V. A., and TROPIN, I. V.

"Synthesis of α-(Dimethylnaphthyl)-methylcarbamates From Petroleum Raw Material"

Tr. NII neftekhim. proiz-va (Works of the Scientific Research Institute of the Petrochemical Industry), 1970, vyp. 2, pp 84-86 (from RZh-Khimiya, No 3, 10 Feb 71, Abstract No 3N533)

Translation: The starting material used for synthesis of alpha-dimethylnaphthyl methylcarbamates is 2,6-dimethylnaphthalene and dimethylnaphthalene concentrates prepared from a narrow light gas-oil fraction by catalytic cracking and sulfonated with H_2SO_4 or chlorosulfonic acid. The resultant sodium sulfonates are subjected to alkaline fusion with excess KOH at 280-310°C. Dimethyl-alpha-naphthols are converted by a conventional method to the corresponding methylcarbamates: α-2,6-dimethylnaphthyl methylcarbamate, boiling point -- 134-6°C; α-dimethylnaphthyl methylcarbamate, boiling point -- 158-68°C/5-6. Preliminary tests of both specimens showed that they are close to Sevin in their biological activity.

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1/2 017 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--OPTIMIZATION OF THE DEHYDRATION OF PYROMELLITIC ACID TO ITS ANHYDRIDE -U-

AUTHOR-(04)-MAZITOV, M.F., GOLECHEK, A.A., PORTNOV, YU.T., KHANNANOV, T.M.

COUNTRY OF INFO--USSR

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ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STATISTICALLY PLANNED SET OF 20 EXPTS. WAS CARRIED OUT WITH TEMP. (200 PLUS OR MINUS 30DEGREES), PRESSURE (510 PLUS OR MINUS 150 MM), AND TIME (4 PLUS OR MINUS 1.5 HR) AS INDEPENDENT VARIABLES, AND YIELD AND PURITY OF PYROMELLITIC DIANHYDRIDE AS THE RESPONSES. TWO REGRESSION SERIES WERE OBTAINED.

FACILITY: NAUCH.-ISSLED. INST. NEFTEKHIM. PROIZVOD., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 620.179.118

MOISEYEV, L. M., STARYY, I. B., and KHANONKIN, A. A., Odessa State Pedagogical Institute

"Method of Studying the Wrinkled Microrelief Occurring on the Surface of a Cyclic-Strained Single Crystal"

Metallofizika. Resp. mezhved. sb. (The Physics of Metals. Republic Interdepartment Collection of Works), 1970, vyp. 29, pp 177-180 (from RZh-Metallurgiya, No 3, Mar 71, Abstract No 31885 by authors)

Translation: The established fact of the appearance of a wrinkled microrelief on the surface of Al single crystal as a result of its cyclic straining is used as the basis for suggesting a method of studying this microrelief, based on the phenomenon of x-ray automagnification. A loading method is suggested which permits continuous bending of the Al single crystal and, if necessary, its cyclic straining. The x-ray optical scheme of the experiment makes it possible to obtain reflexograms, with which it is possible to study the distribution of wrinkles on the crystal surface and its dynamics in relation to the number of loading cycles. Three illustrations. Bibliography with nine titles.

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USSR

UDC: 621.375.826

MALYSHEV, G. F., TROITSKIY, Yu. V., KHANOV, V. A., and KHYUPPENEN, V. P.

"Stabilized Single-Frequency Helium-Neon Laser"

Novosibirsk, Avtometriya, No 5, 1972, pp 86-93

Abstract: A description of a frequency-stabilized He-Ne laser, of 0.63 μ wavelength, is given. The stable passive resonator of this device is inside the laser resonator and is also used for obtaining single-frequency oscillation. A cross-sectional view of the instrument is provided, and an explanation of its operation given. Its construction is based on the single-mode industrially manufactured LG-36A, with the discharge tube and the power source unmodified but with the laser resonator modified by replacing its mirror with a reflecting interferometer, by being lengthened, by increasing the transmission factor of the spherical mirror, and by improving thermal insulation of the resonator from the discharge tube. The automatic frequency tuning system is described and the circuit of its electronic components given. It is noted that this laser's frequency can be smoothly varied and can therefore be stabilized

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USSR UDC: 621.375.826

MALYSHEV, G. F., et al, Avtometriya, No 5, 1972, pp 86-93

according to the spectral line. The authors express their gratitude to N. N. Kamenev and Yu. G. Vasilenko.

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USSR UDC 541.138.2:546

KOKHANOV, G. N., and KHANOVA, L. A.

"Influence of pH on the Consumption (Wear) of a Graphite Anode in Combined Discharge of Chlorine and Oxygen at 40°C"

Moscow, Elektrokhimiya, Vol 6, No 10, Oct 70, pp 1492-1496

Abstract: The dependence of combustion of a graphite anode on pH in combined discharge of chlorine and oxygen in 4.4 N NaCl was studied at 40°C. It is demonstrated that combustion of the graphite occurs as oxygen is separated on it from the water molecules, and does not occur (or almost does not occur) if the oxygen is separated as a result of discharge of hydroxyl ions. It is demonstrated that a significant portion of the wear of the graphite anode results from chemical interaction between the graphite and active chlorine. The study was performed in a laboratory chlorine and chlorate electrolyzer with a chloride content in the anolyte of 3.2 N NaCl and 4.4 N NaCl, respectively. The current density in all experiments was 2,000 a/m^2. The wear of graphite anodes observed under industrial conditions is thus composed of chemical, electrochemical, and mechanical components. The ratio between chemical and electrochemical wear components may vary. Under the experimental conditions used in this article, chemical wear was approximately equal to electrochemical wear at pH 4-4.5.
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USSR

UDC: 621.374.5

KHANOVICH, I. G., KAPRANOV, R. I.

"Principles of Designing Wide-Band Thermostable Electromechanical Miniaturized Delay Lines"

V sb. Materialy Nauch.-tekhn. konf. Leningr. elektrotekhn. in-t svyazi. Vyp. 4 (Materials of the Scientific and Technical Conference of Leningrad Electrical Engineering Institute of Communications--collection of works, No 4), Leningrad, 1971, pp 135-140 (from RZh-Radiotekhnika, No 3, Mar 72, Abstract No 3G344)

Translation: In addition to experimental confirmation of the theoretical principles of development of electromechanical delay lines with a metal strip acoustic line, this paper gives the basic results of studies done during the design, construction and testing of experimental batches of a new type of delay line. Bibliography of five titles. Resumé.

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USSR UDC 621.397.132:621.382:621.375.4

BRITANISHSKIY, R. G., SOLOVEY, V. F., and KHANOVICH, I. G.

"SEKAM Chromaticity Block With Integrated Circuits"

Moscow, Tekhnika kino i televideniya, No. 11, 1971, pp 48-52

Abstract: Stressing the advantages and usefulness of integrated circuits, this article offers as an example of those advantages the experimental model of a printed circuit for decoding chromaticity signals in the SEKAM system of color television. This circuit contains two integrated circuit units: one, type K2TS241, is a bistable flip-flop; the other, type K2KT241 is an electronic switch. Both can be used either in the SEKAM or the PAL systems. The schematics of both are given together with a schematic of the ensemble, and their operation is explained. The schematic of an alternative switching circuit that can be used in the chromaticity block is also provided. Among the new components in this block is a delay line, external photographs and an internal drawing of which are shown. Other illustrations are a block diagram of the chromaticity circuits and oscillograms of the signals at various points in the block diagram. The authors are associated with the M. A. Bonch-Bruyevich Electrical Engineering Communications Institute of Leningrad.

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Circuit Theory

USSR UDC: 621.374.5

GOLUBEV, A. G., PORTNOY, M. S., KHANOVICH, I. G.

"Effect Which the Relationship Between Acoustic Resistances of Component Elements in an Electromechanical Delay Line Has on the Amplitude-Frequency Response of the Line"

Tr. uchebn. in-tov svyazi. M-vo svyazi SSSR (Works of Educational Institutes of Communications. Ministry of Communications of the USSR), 1970, vyp. 49, pp 157-162 (from RZh-Radiotekhnika, No 2, Feb 71, Abstract No 2G313)

Translation: The authors investigate the way in which the width of the passband and signal attenuation are affected by the relationship between acoustic resistances in a piezoelectric converter and acoustic line (in the absence of an intermediate layer), and in addition the parameters of the amplitude-frequency response of the delay line are determined as a function of the relationship between the acoustic resistances of the piezoelectric converter and a solder (or cement) layer for the corresponding optimum condition. Bibliography of one title. Resumé.

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USSR

UDC 621.357.7.035.4:699.587(088.8)

TODT, KHANS GYUNTER, AND FOSS, GYUNTER, Sharing Co., West Berlin, Germany

"An Acid Electrolyte for Galvanizing"

Author's Certificate No 330640, filed 10 Apr 70, published 7 Apr 72 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L303P by V. N. Titova)

Translation: An electrolyte is patented for depositing a shiny galvanizing coat. It is improved in that to obtain the shine and pliability for large thicknesses of the zinc film, an aromatic ketone is added to the composition of the acid galvanizing electrolyte. The proposed electrolyte has the following composition, in g/liter: the zinc salt, 50-200; NH_4Cl, 50-300; polyethylene glycol, 0.1-20; the aromatic ketone, 0.01 - 5; a pH of 3-6 with an optimum range of 4.5 to 5.5; a temperature of 10-45°; and D_k 0.1-10 amps/decimeter^2. The solution is mixed either by air or by stirring with a cathode. The following series of compounds may be used for the aromatic ketone: acetophenone, ethylphenolketone, propiophenone, benzylacetone, 2-hydroxybenzalacetone, benzoylacetonitrile, 3-acetylpyridine, 2-benzoylpyridine, the ethyl ether of benzoylacetic acid, 3-acetylcoumarin, thienyldenacetone and others.
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TODT, et al., Author's Certificate No 330640, filed 10 Apr 70, published 7 Apr 72

Other brighteners may be used in the electrolyte, for example, thio compounds, high molecular compounds, aromatic aldehydes, and also non-frothing surface active compounds in particular, short chain alkyl sulfates. For example, in g/liter: $ZnCl_2$,150; NH_4Cl,175; polyethylene glycol (average molecular weight of 4000), 2.0; 3-acetylcourmarin 0.2; salicylic acid (the potassium salt), 4.0; pH of 4.8; temperature 20°; D_k 5.0 amps/decimeter^2; and an injection of air.

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